

Patent Claims

1. Method for logging on a mobile unit (11) at a fixed station (1) for a transmission of data by radio, in which method the data are transmitted in time slots ( $Z_x$ ) on a plurality of carrier frequencies ( $f_x$ ) and the mobile unit (11) and the fixed station (1) change the carrier frequency ( $f_x$ ) after a predetermined time period in accordance with a predetermined sequence, characterized in that the fixed station (1) broadcasts check data which indicate the position of the carrier frequency ( $f_x$ ) of the current time slot ( $Z_x$ ) in the predetermined sequence, and the mobile unit (11) determines (12) the position of the carrier frequency ( $f_x$ ) of the current time slot ( $Z_x$ ) in the predetermined sequence by means of the check data.
2. Method according to Claim 1, characterized in that the check data are transmitted automatically during a logging-on mode.
3. Method according to one of the preceding claims, characterized in that, in order to define the carrier frequency change, one of a plurality of predetermined sequences is selected and the check data broadcast by the fixed station (1) continue to indicate which of the plurality of predetermined sequences is used by the fixed station (1).
4. Method according to one of the preceding claims, characterized in that the predetermined sequences are determined (15) by means of an algorithm.
5. Method according to one of the preceding claims, characterized in that

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it is sensed which of the carrier frequencies ( $f_x$ ) is subject to interference, and during the logging on of the mobile unit (11) a carrier frequency ( $f_4$ , Fig. 4) which is prescribed by the predetermined sequence is used ( $P_2$ ) if this carrier frequency ( $f_4$ , Fig. 4) of the predetermined sequence is passed over ( $P_1$ )

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6. Method according to one of the preceding claims,  
characterized in that  
the 2.4 GHz ISM frequency band is used for transmission.

10 7. Method according to one of the preceding claims,  
characterized in that  
the number of available carrier frequencies ( $f_c$ ) is at least 75 and in particular 96.

8. Arrangement for wire-free transmission of data between a mobile unit (2, 3, 11) and  
15 a fixed station (1) in time slots ( $Z_x$ ) on a plurality of carrier frequencies ( $f_x$ ), the fixed  
station (1) and the mobile unit (11) each having:

- a device (12, 13) for outputting a predetermined sequence which prescribes the carrier frequencies ( $f_x$ ) of the time slots ( $Z_x$ ), the carrier frequency changing after a predetermined time period, and

20 - an HF module (4, 5) for transmitting the data in the time slots ( $Z_x$ ) whose carrier frequencies ( $f_x$ ) are each prescribed by the output device (12, 13) by means of the predetermined sequence,

characterized in that  
the data broadcast by the fixed station (1) have check data which indicate the position  
25 of the carrier frequency ( $f_x$ ) of the current time slot ( $Z_x$ ) in the predetermined  
sequence.

9. Arrangement according to Claim 8,  
characterized in that

the fixed station (1) has a switching device (14) for switching over between a logging-on mode and a normal transmission mode, and the check data are broadcast automatically if the switching device (14) is switched to the logging-on mode.

5 10. Arrangement according to one of Claims 8 or 9,  
characterized in that  
the output devices (13, 16) each have a plurality of predetermined sequences, and the  
check data continue to contain data which indicate the sequence currently in use by  
the fixed station (1).

10 11. Arrangement according to one of Claims 8 to 10,  
characterized in that  
the output devices (12, 13) each have a processor (15, 16) which calculates the  
predetermined sequence or sequences by means of an algorithm.

15 12. Arrangement according to one of Claims 8 to 11,  
characterized in that  
the carrier frequencies ( $f_x$ ) lie in a 2.4 GHz ISM radio band.

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